c.) Remarks

Claims 1, 80 and 81 have been amended in order to recite the present invention with the specificity required by statute[1]. Claim 72 has been cancelled as redundant and claim 23 amended to further limit the subject matter of its antecedent claims. Lastly, claims 88-90 are added in order to recite various preferred embodiments of the present invention. Additionally, the title of the application has been amended to more closely relate to the pending claims.

Claims 1, 15, 18-21, 23, 24, 72, 74, 75 and 80-87 stand rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. The Examiner's grounds for rejection are set forth at pages 2-6 of the Office Action. Therein, according to the Examiner, the Examples do not literally or figuratively describe continuous culture (page 3, lines 8-11 and from page 5, line 23 to page 6, line 5). In response, in order to reduce the issues, such term has been deleted from the claims. Accordingly, this basis of rejection is overcome.

Additionally, the Examiner disagrees that expression of neural surface markers supports generation of neural crest or neural tube cells. Again, in order to reduce the issues, the claims have been amended to recite instead producing a cell expressing a neural surface marker. Accordingly, this basis of rejection is overcome as well.

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[1] In particular, the second step after "culturing" has been deleted in claim 1. Since "BMP-4" was previously deleted in Applicants' September 10, 2009 Preliminary Amendment, it is no longer necessary to recite separate culturing steps.

Claims 1, 18, 20, 80 and 81 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. §103(a) as obvious over Kuehn (*Nature*, Vol. 326 (1987) 295-98).

In support of the rejection the Examiner states at pages 7-8 of the Office Action

> Kuehn teaches co-culture of an embryonic stem cell in vitro in the absence of retinoic acid and in the presence of mitotically inactivated by mitomycin C treated 3T3 stromal cells for two days and then the stem cells expanded on STO feeder cells (p 297, 2nd column under Methods). The ES cells inherently differentiate into a neural crest cell or a neural tube cell as instantly claimed because the same culture method steps. Inherently, the stroma cell is recognized by the monoclonal antibody produced by the hybridoma FERM BP-7573 because there is in no structure of the stroma cells in the pending claims to differentiate them from those set forth by Kuehn. Where, as here, the claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes, the PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his claimed product.

This rejection is respectfully traversed. That is, as the Examiner is well-aware, Kuehn cultures, on 3T3 feeder cells, Psi2 cells that were inactivated with mitomycin. To the contrary, Applicants' pending claims recite use of OP9 or PA6 cells.[2]

[2] In any event, therefore, it is understood the cells obtained by Kuehn do not express neural surface markers as in the present invention. (Although Kuehn refers to these cells as "stem cells" (page 295, right column, penultimate line), Kuehn explains germ-like chimeric mice were obtained by injecting the obtained cells into blastocysts, see page 297, Table 1 and right column, last two lines.) The cells obtained by Kuehn are undifferentiated and have features of ES cells. Furthermore, Keuhn's STO cells are cell line derived from MEFs. As shown in both Applicants' Figure 2 and paragraph [0456] of the publication of the present application, when MEFs are used as feeder cells, expression of neural cell markers is not recognized.

In view of the above amendments and remarks, Applicants submit that all of the Examiner's concerns are now overcome and the claims are now in allowable condition. Accordingly, reconsideration and allowance of this application is earnestly solicited

Claims 1, 15, 18-21, 23, 24, 74, 75 and 80-90 remain presented for continued prosecution.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,

/Lawrence S. Perry/
Lawrence S. Perry
Attorney for Applicants
Registration No. 31,865

FITZPATRICK, CELLA, HARPER & SCINTO
1290 Avenue of the Americas
New York, New York 10104-3800
Facsimile: (212) 218-2200

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